

REMARKS

Applicants appreciate the thorough examination of the present application as evidenced by the Office Action. Applicants appreciate the allowance of Claims 24-31 and the indication of allowable subject matter in Claims 12 and 13. Applicants submit that the present rejections should be withdrawn for at least the reasons discussed below.

The Claims Are Not Anticipated

Claims 1-3, 7, 8, 10, 11, 14-16, 20, 21 and 23 are identified as standing rejected under 35 U.S.C. § 102(b) as anticipated by United States Patent No. 5,677,226 to Ishitani (hereinafter "Ishitani"). Official Action, p. 2. However, as no discussion is presented of a basis for an anticipation rejection and in light of the obviousness rejections, Applicants assume the anticipation rejections have been withdrawn.

The Claims are not Obvious:

Claims 1-3, 5, 7-8, 10-11, 14-16, 18, 20-21, 23 and 32 stand rejected as obvious under 35 U.S.C. § 103 over Ishitani in view of Silicon Processing for the VLSI Era - Vol. 1: Process Technology ("Wolf"). Official Action, p. 3. The rejection of these claims as obvious substantially follows the language of the previous Ishitani-based anticipation rejection in combination with the obviousness rejections over Ishitani in combination with Wolf in the last Office Action. Accordingly, only newly raised issues will be addressed herein. However, Applicants' previous amendment is incorporated herein to the extent applicable to insure that the present Amendment is fully responsive to the outstanding Office Action.

Claims 1 and 32 have been amended to recite that the lower electrode is "cylindrical." Accordingly, these claims are patentable for at least the reason stated with respect to Claims 12 and 13 and allowed Claims 24-31 in the Office Action, *i.e.*, that they recite a cylindrical lower electrode having a nitride protection layer thereon. Office Action, p. 6. Claim 12 has been amended in light of the amendment to Claim 1. Applicants further request clarification from the Examiner as to whether Claim 31 is allowed as it depends from Claim 1, not Claim 24. Newly added Claim 33 corresponds to previously pending Claim 1, not including the

recitation that the lower electrode is cylindrical.

The rejection of independent Claim 14 as reflected in Paragraph 4 of the Office Action appears to have changed only in a footnote asserting that "[p]olysilicon does not undergo a phase change at a temperature of 600° or less." Office Action, p. 5, fn1. As further stated in the Response to Arguments section, "[s]ince polysilicon does not undergo a phase change at a temperature of 600°C or less, Wolf clearly teaches the limitation of forming the silicon nitride protection layer at a temperature below a minimum temperature associated with a phase change of the lower electrode." Office Action, p. 6. However, the Office Action fails to address Applicants' arguments that this portion of Wolf cannot properly be combined with Ishitani as Wolf itself teaches away from such a combination. As stated previously by Applicants:

Wolf states that the lower temperature process as used where the "deposition process must be compatible with such low-melting point metals as aluminum." Wolf, p. 192. Otherwise, the comparison of the two processes in Wolf clearly indicates that the higher temperature process includes many benefits, such as "excellent step coverage and relatively low particular contamination." Wolf, p. 193. Difficulties with the lower temperature PECVD process are also discussed, such as the introduction of oxygen, as "[o]xygen concentration increases as deposition temperature decreases ... due to moisture or oxygen released from the reaction chamber walls." Wolf, p. 194. Therefore, contrary to the assertion of the Office Action, **one of skill in the art would not be motivated to use the lower temperature process of Wolf, in the context of Ishitani, as there is no concern with compatibility with a low melting point metal.**

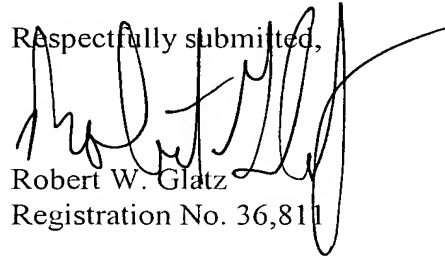
September 2004 Amendment, pp. 11-12 (emphasis added). Thus, Wolf clearly does not suggest use of the lower temperature relied on for the rejection of Claim 14 with the polysilicon structure of Ishitani. Accordingly, the rejections of independent Claim 14 and the claims that depend therefrom should be withdrawn for at least these reasons. Newly added independent Claim 33, corresponding to previously pending Claim 1, is patentable for similar reasons.

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CONCLUSION

Applicants respectfully submit that, for the reasons discussed above, the references cited in the present rejections do not disclose or suggest the present invention as claimed. Accordingly, Applicants respectfully request allowance of all the pending claims and passing this application to issue.

Respectfully submitted,



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